

Supplementary Table 1. Causative tumors found during the follow-up period

No.	Age (y)/sex	Tumor	Time of detection (months from initial check-up)	CA 19-9			Elevation of other tumor markers*			Operation (histology)
				Initial level (U/mL)	Maximum level (U/mL)	Changing pattern of the level	AFP	CEA	CA 125	
1	43/M	Cholangiocarcinoma	14	39.7	932.1	Sustained high level	N	N		Inoperable
2	70/M	Gastric cancer	25	40.8	41.0	Normalization after treatment	N	N		Endoscopic submucosal dissection (tubular adenocarcinoma)
3	78/F	Ovarian cancer	15	58.3	58.3	Normalization after treatment	N	N	Y	Hysterectomy with salpingo-oophorectomy (serous adenocarcinoma)
4	37/F	Cervical cancer	43	38.2	38.2	Normalization after treatment	N	N	N	Surgery in other clinic
5	46/F	Pancreatic cystic neoplasm with benign ovarian tumor	25	38.4	62.4	Normalization without treatment	N	N	N	Observation without surgery
6	73/M	Pancreatic cystic neoplasm	26	46.5	46.5	Normalization without treatment	N	N		Observation without surgery
7	36/F	Pancreatic cystic neoplasm	36	41.1	41.1	Normalization without treatment	N	N	N	Observation without surgery
8	39/F	Biliary cystadenoma	3	51.5	70.1	Normalization without treatment	N	N	N	Left hepatic lobectomy (biliary cystadenoma)
9	29/F	Benign ovarian tumor	4	40.9	56.4	Normalization without treatment	N	N	N	Ovarian cystectomy (dermoid cyst)
10	36/F	Benign ovarian tumor	5	64.5	64.5	Sustained high level	N	N	Y	Observation without surgery
11	48/F	Benign ovarian tumor	48	342.7	342.7	Normalization after treatment	N	N	N	Ovarian cystectomy (endometriotic cyst)
12	29/F	Benign ovarian tumor	13	42.0	42	Normalization without treatment	N	N	N	Observation without surgery
13	32/F	Benign ovarian tumor	33	44.6	111.1	Normalization after treatment	N	N	Y	Surgery in other clinic
14	42/F	Benign ovarian tumor	28	39.8	39.8	Normalization after treatment	N	N	Y	Surgery in other clinic
15	34/F	Benign ovarian tumor	13	64.7	64.7	Sustained high level	N	N	N	Observation without surgery
16	39/F	Benign ovarian tumor	24	42.6	42.6	Normalization without treatment	N	N	N	Observation without surgery
17	43/F	Benign ovarian tumor	14	80.3	80.3	Sustained high level	N	N	N	Observation without surgery
18	46/F	Benign ovarian tumor	63	58.9	58.9	Fluctuating level	N	N	Y	Observation without surgery

M, male; F, female; CA 19-9, cancer antigen 19-9; AFP, alpha-fetoprotein; CEA, carcinoembryonic antigen; CA 125, cancer antigen 125.

*A capital Y indicates the elevation of the other tumor marker level on initial check-up, while a capital N indicates that the level was within the normal limit.